

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An integrated head assembly for a nuclear reactor having a reactor vessel closure head with a plurality of lifting lugs wherein the reactor vessel closure head supports a plurality of control rod drive mechanisms, the integrated head assembly comprising:

a plurality of lift rods that extend upwardly from the reactor vessel closure head, each lift rod adapted to engage one of the lifting lugs;

a lower ring beam supported by the reactor vessel closure head;

a shroud assembly supported by the lower ring beam, the shroud assembly comprising a support structure and a plurality of ducts, each duct having an inlet disposed near the reactor vessel closure head and an outlet disposed distally from the inlet;

a seismic support assembly that engages the control rod drive mechanisms and is attached to the shroud assembly;

a missile shield assembly attached to the shroud assembly and disposed above the control rod drive mechanisms; and

a plurality of fans, wherein each fan is fluidly connected to the outlet of at least one of the plurality of ducts.